

WHAT IS CLAIMED IS:

1. A communication system, comprising:

a base station controller; and

5 at least one base transceiver station in  
communication with the base station controller, wherein  
at least one of the base station controller and the at  
least one base transceiver station is dynamically  
selected, by a selection procedure, to perform a physical  
10 channel function, the selection procedure comprising  
determining at least one characteristic of at least one  
of:

at least one set of data carried by the at  
least one base transceiver station, and

15 transmission of at least one data signal  
representing the at least one set of data.

2. A system according to claim 1, wherein the  
physical channel function comprises at least one of:

20 a data selection function operating upon the at  
least one set of data; and

a data distribution function operating upon the at  
least one set of data.

3. A system according to claim 2, wherein the physical channel function further comprises:

a resource allocation function controlling allocation of wireless resources of the at least one base transceiver station;

a multiplexing function operating upon the at least one set of data; and

a termination function of at least one of:

a traffic channel carrying the at least one set of data, and

a control channel carrying information for controlling the at least one base transceiver station.

4. A system according to claim 1, wherein the selection procedure is performed for a first user, thereby generating a first selection result, and wherein the selection procedure is further performed for a second user, thereby generating a second selection result, the first and second selection results being independent from each other.

5. A system according to claim 4, wherein the selection procedure is performed exactly once for at least one of the first and second users.

6. A system according to claim 4, wherein the selection procedure is performed at least twice for at least one of the first and second users.

5 7. A system according to claim 1, wherein the selection procedure is performed for a first communication session, thereby generating a first selection result, and wherein the selection procedure is further performed for a second communication session, thereby generating a second selection result, the first and second selection results being independent from each other.

10 8. A system according to claim 7, wherein the selection procedure is performed exactly once for at least one of the first and second communication sessions.

15 9. A system according to claim 7, wherein the selection procedure is performed at least twice for at least one of the first and second communication sessions.

20 10. A system according to claim 1, wherein the selection procedure is performed for a first handoff event, thereby generating a first selection result, and wherein the selection procedure is further performed for a second handoff event, thereby generating a second selection result, the first and second selection results being independent from each other.

25

11. A system according to claim 1, wherein the selection procedure further comprises:

using the at least one characteristic to determine a wireless savings amount associated with performing the physical channel function by the at least one base transceiver station;

using the at least one characteristic to determine a backhaul cost amount associated with performing the physical channel function by the at least one base transceiver station;

selecting the at least one base transceiver station if the wireless savings amount exceeds the backhaul cost amount; and

selecting the base station controller if the backhaul cost amount exceeds the wireless savings amount.

12. A system according to claim 1, wherein the selection procedure further comprises:

using the at least one characteristic to determine a first wireless savings amount associated with performing the physical channel function by the at least one base transceiver station;

using the at least one characteristic to determine a first backhaul cost amount associated with performing the physical channel function by the at least one base transceiver station;

using the at least one characteristic to determine a second wireless savings amount associated with performing a call anchor function by the base station controller;

using the at least one characteristic to determine a second backhaul cost amount associated with performing the call anchor function by the base station controller;

selecting the at least one base transceiver station if the first wireless savings amount plus a call anchor location benefit amount minus the first backhaul cost amount exceeds zero, the call anchor location benefit amount comprising the second backhaul cost amount minus the second wireless savings amount; and

selecting the base station controller if the first wireless savings amount plus the call anchor location benefit amount minus the first backhaul cost amount is less than zero.

13. A method of communicating, comprising:  
determining at least one characteristic of at least  
one of:

5 at least one set of data carried by at least  
one base transceiver station in communication with a base  
station controller, and

transmission of at least one data signal  
representing the at least one set of data; and

10 using the at least one characteristic to dynamically  
select at least one of the base station controller and  
the at least one base transceiver station to perform a  
physical channel function.

14. A method according to claim 13, wherein the  
15 physical channel function comprises at least one of:

a data selection function operating upon the at  
least one set of data; and

a data distribution function operating upon the at  
least one set of data.

20

15. A method according to claim 14, wherein the  
physical channel function further comprises:

25 a resource allocation function controlling  
allocation of wireless resources of the at least one base  
transceiver station;

a multiplexing function operating upon the at least  
one set of data; and

a termination function of at least one of:

30 a traffic channel carrying the at least one set  
of data, and

a control channel carrying information for  
controlling the at least one base transceiver station.

16. A method according to claim 13, wherein the step of using the at least one characteristic is performed for a first user, thereby generating a first selection result, and wherein the step of using the at least one characteristic is further performed for a second user, thereby generating a second selection result, the first and second selection results being independent from each other.

17. A method according to claim 16, wherein the step of determining and the step of using the at least one characteristic are each performed exactly once for at least one of the first and second users.

18. A method according to claim 16, wherein the step of determining and the step of using the at least one characteristic are each performed at least twice for at least one of the first and second users.

19. A method according to claim 13, wherein the step of using the at least one characteristic is performed for a first communication session, thereby generating a first selection result, and wherein the step of using the at least one characteristic is further performed for a second communication session, thereby generating a second selection result, the first and second selection results being independent from each other.

20. A method according to claim 19, wherein the step of determining and the step of using the at least one characteristic are each performed exactly once for at least one of the first and second communication sessions.

5

21. A method according to claim 19, wherein the step of determining and the step of using the at least one characteristic are each performed at least twice for at least one of the first and second communication sessions.

10

22. A method according to claim 13, wherein the step of using the at least one characteristic is performed for a first handoff event, thereby generating a first selection result, and wherein the step of using the at least one characteristic is further performed for a second handoff event, thereby generating a second selection result, the first and second selection results being independent from each other.

15



23. A method according to claim 13, wherein the step of using the at least one characteristic comprises:

5 using the at least one characteristic to determine a wireless savings amount associated with performing the physical channel function by the at least one base transceiver station;

10 using the at least one characteristic to determine a backhaul cost amount associated with performing the physical channel function by the at least one base transceiver station;

15 selecting the at least one base transceiver station if the wireless savings amount exceeds the backhaul cost amount; and

selecting the base station controller if the backhaul cost amount exceeds the wireless savings amount.

24. A method according to claim 13, wherein the step of using the at least one characteristic comprises:

using the at least one characteristic to determine a first wireless savings amount associated with performing the physical channel function by the at least one base transceiver station;

using the at least one characteristic to determine a first backhaul cost amount associated with performing the physical channel function by the at least one base transceiver station;

using the at least one characteristic to determine a second wireless savings amount associated with performing a call anchor function by the base station controller;

using the at least one characteristic to determine a second backhaul cost amount associated with performing the call anchor function by the base station controller;

selecting the at least one base transceiver station if the first wireless savings amount plus a call anchor location benefit amount minus the first backhaul cost amount exceeds zero, the call anchor location benefit amount comprising the second backhaul cost amount minus the second wireless savings amount; and

selecting the base station controller if the first wireless savings amount plus the call anchor location benefit amount minus the first backhaul cost amount is less than zero.

25. A communication system, comprising:

means for engaging in wireless communication with at least one mobile unit;

5 means for controlling the means for engaging in wireless communication; and

10 means for dynamically selecting at least one of the means for controlling and the means for engaging in wireless communication to include physical channel means, the means for dynamically selecting comprising means for determining at least one characteristic of at least one of:

at least one set of data carried by the means for engaging in wireless communication, and

15 transmission of at least one data signal representing the at least one set of data.

26. A system according to claim 25, wherein the physical channel means comprises at least one of:

20 means for performing a data selection operation upon the at least one set of data; and

means for performing a data distribution operation upon the at least one set of data.

27. A system according to claim 26, wherein the physical channel means further comprises:

5 means for performing a resource allocation operation controlling allocation of wireless resources of the means for engaging in wireless communication;

means for performing a multiplexing operation upon the at least one set of data; and

means for terminating at least one of:

10 a traffic channel carrying the at least one set of data, and

a control channel carrying information for controlling the means for engaging in wireless communication.

15 28. A system according to claim 25, wherein the means for dynamically selecting comprises:

20 means for generating a first selection result by selecting, for a first user, a first selected one of the means for controlling and the means for engaging in wireless communication; and

25 means for generating a second selection result by selecting, for a second user, a second selected one of the means for controlling and the means for engaging in wireless communication, the first and second selection results being independent from each other.

30 29. A system according to claim 28, wherein at least one of the means for generating the first selection result and the means for generating the second selection result generates exactly one selection result.

30. A system according to claim 28, wherein at least one of the means for generating the first selection result and the means for generating the second selection result generates at least two selection results.

5

31. A system according to claim 25, wherein the means for dynamically selecting comprises:

means for generating a first selection result by selecting, for a first communication session, a first selected one of the means for controlling and the means for engaging in wireless communication; and

10

means for generating a second selection result by selecting, for a second communication session, a second selected one of the means for controlling and the means for engaging in wireless communication, the first and second selection results being independent from each other.

15

32. A system according to claim 31, wherein at least one of the means for generating the first selection result and the means for generating the second selection result generates exactly one selection result.

20

33. A system according to claim 31, wherein at least one of the means for generating the first selection result and the means for generating the second selection result generates at least two selection results.

25

34. A system according to claim 25, wherein the means for dynamically selecting comprises:

means for generating a first selection result by selecting, for a first handoff event, a first selected one of the means for controlling and the means for engaging in wireless communication; and

means for generating a second selection result by selecting, for a second handoff event, a second selected one of the means for controlling and the means for engaging in wireless communication, the first and second selection results being independent from each other.

35. A system according to claim 25, wherein the means for dynamically selecting further comprises:

means for using the at least one characteristic to determine a wireless savings amount associated with performing the physical channel function by the means for engaging in wireless communication;

means for using the at least one characteristic to determine a backhaul cost amount associated with performing the physical channel function by the means for engaging in wireless communication;

means for selecting the means for engaging in wireless communication if the wireless savings amount exceeds the backhaul cost amount; and

means for selecting the means for controlling if the backhaul cost amount exceeds the wireless savings amount.

36. A system according to claim 25, wherein the means for dynamically selecting further comprises:

means for using the at least one characteristic to determine a first wireless savings amount associated with performing the physical channel function by the means for engaging in wireless communication;

means for using the at least one characteristic to determine a first backhaul cost amount associated with performing the physical channel function by the means for engaging in wireless communication;

means for using the at least one characteristic to determine a second wireless savings amount associated with performing a call anchor function by the means for controlling;

means for using the at least one characteristic to determine a second backhaul cost amount associated with performing the call anchor function by the means for controlling;

means for selecting the means for engaging in wireless communication if the first wireless savings amount plus a call anchor location benefit amount minus the first backhaul cost amount exceeds zero, the call anchor location benefit amount comprising the second backhaul cost amount minus the second wireless savings amount; and

means for selecting the means for controlling if the first wireless savings amount plus the call anchor location benefit amount minus the first backhaul cost amount is less than zero.

37. A computer-readable medium having a set of instructions operable to direct a processor to perform the steps of:

5 determining at least one characteristic of at least one of:

at least one set of data carried by at least one base transceiver station in communication with a base station controller, and

10 transmission of at least one data signal representing the at least one set of data; and

using the at least one characteristic to dynamically select at least one of the base station controller and the at least one base transceiver station to perform a physical channel function.

15

38. A computer-readable medium according to claim 37, wherein the physical channel function comprises at least one of:

20 a data selection function operating upon the at least one set of data; and

a data distribution function operating upon the at least one set of data.



39. A computer-readable medium according to claim 38, wherein the physical channel function further comprises:

5 a resource allocation function controlling allocation of wireless resources of the at least one base transceiver station;

a multiplexing function operating upon the at least one set of data; and

10 a termination function of at least one of:  
a traffic channel carrying the at least one set of data, and

a control channel carrying information for controlling the at least one base transceiver station.

15 40. A computer-readable medium according to claim 37, wherein the step of using the at least one characteristic is performed for a first user, thereby generating a first selection result, and wherein the step of using the at least one characteristic is further  
20 performed for a second user, thereby generating a second selection result, the first and second selection results being independent from each other.

25 41. A computer-readable medium according to claim 40, wherein the step of determining and the step of using the at least one characteristic are each performed exactly once for at least one of the first and second users.

5

42. A computer-readable medium according to claim 40, wherein the step of determining and the step of using the at least one characteristic are each performed at least twice for at least one of the first and second users.

10

43. A computer-readable medium according to claim 37, wherein the step of using the at least one characteristic is performed for a first communication session, thereby generating a first selection result, and wherein the step of using the at least one characteristic is further performed for a second communication session, thereby generating a second selection result, the first and second selection results being independent from each other.

15

20

44. A computer-readable medium according to claim 43, wherein the step of determining and the step of using the at least one characteristic are each performed exactly once for at least one of the first and second communication sessions.

25

45. A computer-readable medium according to claim 43, wherein the step of determining and the step of using the at least one characteristic are each performed at least twice for at least one of the first and second communication sessions.

46. A computer-readable medium according to claim 37, wherein the step of using the at least one characteristic is performed for a first handoff event, thereby generating a first selection result, and wherein the step of using the at least one characteristic is further performed for a second handoff event, thereby generating a second selection result, the first and second selection results being independent from each other.

47. A computer-readable medium according to claim 37, wherein the step of using the at least one characteristic comprises:

using the at least one characteristic to determine a wireless savings amount associated with performing the physical channel function by the at least one base transceiver station;

using the at least one characteristic to determine a backhaul cost amount associated with performing the physical channel function by the at least one base transceiver station;

selecting the at least one base transceiver station if the wireless savings amount exceeds the backhaul cost amount; and

selecting the base station controller if the backhaul cost amount exceeds the wireless savings amount.

48. A computer-readable medium according to claim 37, wherein the step of using the at least one characteristic comprises:

5 using the at least one characteristic to determine a first wireless savings amount associated with performing the physical channel function by the at least one base transceiver station;

10 using the at least one characteristic to determine a first backhaul cost amount associated with performing the physical channel function by the at least one base transceiver station;

15 using the at least one characteristic to determine a second wireless savings amount associated with performing a call anchor function by the base station controller;

20 using the at least one characteristic to determine a second backhaul cost amount associated with performing the call anchor function by the base station controller;

25 selecting the at least one base transceiver station if the first wireless savings amount plus a call anchor location benefit amount minus the first backhaul cost amount exceeds zero, the call anchor location benefit amount comprising the second backhaul cost amount minus the second wireless savings amount; and

selecting the base station controller if the first wireless savings amount plus the call anchor location benefit amount minus the first backhaul cost amount is less than zero.

49. A communication system, comprising:  
a first network;  
a gateway connecting the first network to a second  
network;

5 a mobile unit;  
a base station controller in communication with the  
first network; and

10 at least one base transceiver station in  
communication with the mobile unit and the first network,  
wherein at least one of the base station controller and  
the at least one base transceiver station is dynamically  
selected, by a selection procedure, to perform a physical  
channel function, the selection procedure comprising  
determining at least one characteristic of at least one  
15 of:

at least one set of data carried by the at  
least one base transceiver station, and

transmission of at least one data signal  
representing the at least one set of data.

20

50. A system according to claim 49, wherein the  
physical channel function comprises at least one of:

a data selection function operating upon the at  
least one set of data; and

25 a data distribution function operating upon the at  
least one set of data.

51. A system according to claim 50, wherein the physical channel function further comprises:

a resource allocation function controlling allocation of wireless resources of the at least one base transceiver station;

a multiplexing function operating upon the at least one set of data; and

a termination function of at least one of:

a traffic channel carrying the at least one set of data, and

a control channel carrying information for controlling the at least one base transceiver station.

52. A system according to claim 49, wherein the selection procedure is performed for a first user, thereby generating a first selection result, and wherein the selection procedure is further performed for a second user, thereby generating a second selection result, the first and second selection results being independent from each other.

53. A system according to claim 52, wherein the selection procedure is performed exactly once for at least one of the first and second users.

54. A system according to claim 52, wherein the selection procedure is performed at least twice for at least one of the first and second users.

55. A system according to claim 49, wherein the selection procedure is performed for a first communication session, thereby generating a first selection result, and wherein the selection procedure is further performed for a second communication session, thereby generating a second selection result, the first and second selection results being independent from each other.

10 56. A system according to claim 55, wherein the selection procedure is performed exactly once for at least one of the first and second communication sessions.

15 57. A system according to claim 55, wherein the selection procedure is performed at least twice for at least one of the first and second communication sessions.

20 58. A system according to claim 49, wherein the selection procedure is performed for a first handoff event, thereby generating a first selection result, and wherein the selection procedure is further performed for a second handoff event, thereby generating a second selection result, the first and second selection results being independent from each other.

59. A system according to claim 49, wherein the selection procedure further comprises:

5 using the at least one characteristic to determine a wireless savings amount associated with performing the physical channel function by the at least one base transceiver station;

10 using the at least one characteristic to determine a backhaul cost amount associated with performing the physical channel function by the at least one base transceiver station;

selecting the at least one base transceiver station if the wireless savings amount exceeds the backhaul cost amount; and

15 selecting the base station controller if the backhaul cost amount exceeds the wireless savings amount.



60. A system according to claim 49, wherein the selection procedure further comprises:

using the at least one characteristic to determine a first wireless savings amount associated with performing the physical channel function by the at least one base transceiver station;

using the at least one characteristic to determine a first backhaul cost amount associated with performing the physical channel function by the at least one base transceiver station;

using the at least one characteristic to determine a second wireless savings amount associated with performing a call anchor function by the base station controller;

using the at least one characteristic to determine a second backhaul cost amount associated with performing the call anchor function by the base station controller;

selecting the at least one base transceiver station if the first wireless savings amount plus a call anchor location benefit amount minus the first backhaul cost amount exceeds zero, the call anchor location benefit amount comprising the second backhaul cost amount minus the second wireless savings amount; and

selecting the base station controller if the first wireless savings amount plus the call anchor location benefit amount minus the first backhaul cost amount is less than zero.